CAPITAL CORPORATION

CAPITAL CORPORATION PTY LTD

Waste Management Plan

Proposed Commercial Building

2 Australia Avenue, Sydney Olympic Park

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1 INTRODUCTION

This information details the management and minimisation of waste during the demolition, construction and continuing operational phases of the proposed development. Practical and feasible management options have been identified and are detailed. Effective waste management is essential for the demolition and construction phase of the project and in the ongoing operations of the site. The priorities of waste management principles for this project include:

- Reduce wastes at the source;
- Reuse materials, where possible;
- Recycle wastes, where practical;
- Removal all waste from the site; and
- Dispose of wastes appropriately and responsibly.

2 WASTE SOURCES

2.1 POTENTIAL WASTE SOURCES

There are several sources of potential waste during the construction phase, including:

- Solid waste (clearance material);
- Solid waste ('domestic' debris);
- Solid waste (putrescibles); and
- Hazardous waste (oils and sludges).

These waste streams and potential impacts are discussed below.

2.2 POTENTIAL IMPACTS

2.2.1 SOLID WASTE – DEMOLITION AND CLEARANCE MATERIAL

During construction works, concrete, steel, cabling, timber and scrap metal will be encountered. The approximate quantities of waste resulting from construction are provided at Appendix 1. In accordance with the principles of waste management, opportunities for re-use will be utilised.

Inert material will be kept in a designated 'clean' stockpile area and covered as required with plastic and/or tarpaulins, to minimise potential dust impacts, while awaiting transport off-site.

Where possible, the material will be transported to a building waste recycling facility to be specified at a later date. Alternatively, it will be disposed at a licensed landfill site.

2.2.2 SOLID WASTE – DOMESTIC DEBRIS

'Domestic' debris comprises everyday waste such as paper, aluminium cans and other materials generated by construction and maintenance workers. It is proposed to continue to service the site by private contractors. . The size of bins within the garbage rooms will accommodate the requirements of the private contractors. A cigarette butt collection point will be provided on-site for construction workers.

2.2.3 SOLID WASTE – PUTRESCIBLE WASTE

Putrescibles and ‘green’ waste comprises food scraps. These wastes will be collected and stored separately from other wastes produced during construction and disposed off site by a licensed contractor to either a ‘green waste’ facility or landfill.

2.2.4 HAZARDOUS WASTE – CONTAMINANTS, OILS AND SLUDGES

The subject site and its past history of land uses have not given rise to contaminants. Any waste oils accumulated during maintenance of heavy machinery will be disposed off-site by the contractor as part of their own licence agreements. Waste oil contractors and maintenance and refuelling contractors will be required to have spill response procedures in place. Refuelling will be carried out at designated areas to control potential spill and maintenance issues. Spill response equipment will be stored at the construction sites in the event of unforeseen spills due to hose breaks, etc. Minor waste oil spills will be contained and impacted soils disposed of according to NSW legislation.

No other hazardous wastes are anticipated on site. Should unexpected materials be discovered during the course of refurbishment, work will cease immediately and plans for the safe handling, storage and disposal in accordance with relevant statutory guidelines will be developed.

3 MITIGATION MEASURES

3.1 DETAILED WASTE MANAGEMENT PLAN

A detailed waste management plan can be developed to form part of a construction management plan, which will include:

- Designated stockpiles, recycling areas, bins and a clear indication of the waste streams associated with each one;
- Stripped topsoils, if any, generated through earthworks would be stockpiled for later use;
- Plans of protection measures for waste storage areas;
- Waste handling, management and storage procedures;
- Disposal procedures for each waste stream;
- Training for on-site staff on the contents of the WMP; and
- Emergency plans and contingency plans.

3.2 WASTE TRACKING

3.2.1 WASTE MANAGEMENT GUIDELINES

In accordance with the Protection of the Environment Operations Act 1997, and the EPA's Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid Wastes, waste tracking requirements apply to the generation, storage, transport, treatment or disposal of certain types of wastes. Wastes generated on site that will require tracking include:

- Waste oils;
- Oil and fuel filters; and
- Oily water.

3.2.2 WASTE REGISTER

A register of wastes will be kept throughout the refurbishment/construction project. The register will contain details pertaining to:

- The types and quantity of wastes for each load taken off site;
- The place to which the waste was taken for treatment or disposal; and

- The waste contractor used for each waste load.

4 OPERATIONAL WASTE MANAGEMENT

As part of the future operations of the commercial building, the services of private contractors will be utilised to remove recycling and waste. The proposed development includes a designated 'on-site' waste storage area. Waste and recycling will be stored in the designated area until such time as it is to be collected via the adjoining loading area.

4.1 GENERAL WASTE

Waste will be managed through the provision of skip bins that will be maintained by an approved contractor on a weekly basis. Bins will be housed in a screened waste enclosure, in close proximity to the loading dock and be readily accessible by garbage collectors.

There is one large garbage room on the ground floor to service commercial office and retail waste. The garbage storage area is accessed via a doorway on Ground Floor that leads directly to the loading dock. This process will involve a waste management routine to be undertaken by staff. This routine will include:

- Waste containers/wheelie bins will be covered at all times; and
- Waste containers/wheelie bins to be moved from the existing waste storage area to the designated collection area for pick-up

5 CONCLUSION

This Waste Minimisation and Management Plan has been prepared to assist the authorities in the assessment of the development proposal for the proposed commercial development.

Council may wish to seek a condition of development consent to require a detailed waste minimisation and management plan to be prepared at the Construction Certificate stage of the project.

APPENDIX 1
VOLUMETRIC CALCULATIONS

Waste Management Plan

Axis @ Sydney Olympic Park

Subsections	1 Excavation 2 Construction

Outline of Proposal

Project	Axis @ Sydney Olympic Park
Site Address	2 Australia Avenue, Sydney Olympic Park
Existing Site Description	The site currently has an existing office / warehouse structure located in the southwest portion of the site. Adjacent to this structure extending from the southern boundary to the northern boundary is a bitumen and concrete Carpark.
Brief description of Proposal	The proposed development will see the existing office / warehouse structure being retained and the relocation of the existing on grade car parking. The new commercial / retail building will be located in the north east portion of the site and will require bulk excavation works for two basement car parking levels (approx 240 cars); building identification, directional and corporate signage; loading dock facilities; and outdoor public space.
Name of Applicant	Capital Corporation Pty Ltd
Applicant Address	Suite 705 / 12 Century Circuit, Baulkham Hills NSW
Tel:	+61 2 8853 5000
Fax:	+61 2 8853 5099

Signature of Applicant  Date 03/12/10

Design Allowances

The following allowances have been made in calculating the volumes and tonnages in the new construction works for waste material as a percentage of overall material consumption. Generally, the minimum standards have been applied to promote less site wastage as an economic and environmental incentive.

Concrete		
Waste Volume	3%	of total
Tonnage Volume	2.4	tonne / cum
Masonry		
Waste Volume	5%	of total
Tonnage Volume	1	tonne / cum
Tiling		
Waste Volume	2%	of total
Tonnage Volume	0.75	tonne / cum

Linings		
Waste Volume	5%	of total
Tonnage Volume	0.75	tonne / cum
Steel & Metals		
Waste Volume	5%	of total
Tonnage Volume	3	tonne / cum
Timber		
Waste Volume	5%	of total
Tonnage Volume	0.5	tonne / cum
General Builders Waste		
Waste Volume	1%	of total
Tonnage Volume	1	tonne / cum

AXIS @ SYDNEY OLYMPIC PARK

2 Australia Avenue, Sydney Olympic Park

Land Use Schedule

Site Area				
		4458		
		4458	sqm	
		0.4458	Ha	

Built Area		sqm	% of total	
	Building Footprint (above ground)	2389	54%	of site area
	New Road	588	13%	of site area
	Common Footpaths & Road Reserves	303.8	7%	of site area
	Basement Footprint	4458	100%	of site area
Landscape Areas				
	Podium Landscaping (Hard and Soft)	1177.2	26%	of site area
	Total Built Footprint	4458	100%	

Development Statistics

	Toal Parking	237	cars
	Total Building Area	4458	sqm

NEW CONSTRUCTION AREAS		
Footprint	2389	sqm
Site Area	4458	sqm
Basement	4458	sqm
Pavements	303.8	sqm
Landscaped	1177.2	sqm

Excavated Material		
Basement Footprint	4458	sqm
Topsoil depth	1.2	m
Topsoil Volume	*5349.6*	*cum*
Excavation depth	6.8	m
Excavation depth less topsoil	5.6	m
Excacvation Volume	*24964.8*	*cum*

Concrete		Qty	Length	Width	Height	Thickness	Area	Volume	
Floors									
	Ground Floor					0.3	4458	1337.4	
	Level 1					0.3	1057	317.1	
	Level 2					0.3	1678	503.4	
	Level 3					0.3	2387	716.1	
	Level 4					0.3	2379	713.7	
	Level 5					0.3	2387	716.1	
	Level 6					0.3	2389	716.7	
	Level 7					0.3	2379	713.7	
	Roof					0.3	2379	713.7	
Basement		2				0.3	4458	2674.8	
Footpaths & Driveways						0.15	303.8	45.57	
Lifts		3	3.5	3.2	33	0.3		332.64	
								9500.91	cum
Wastage Volume				3%	of total			285.03	cum
				2.4	tonne / cum			684.07	tonne

Masonry		Qty	Length	Width	Height	Thickness	Area	Volume	
Floors									
	Ground Floor		161		3.2	0.19		97.888	
	Level 1		50		3.2	0.19		30.4	
	Level 2		50		3.2	0.19		30.4	
	Level 3		50		3.2	0.19		30.4	
	Level 4		50		3.2	0.19		30.4	
	Level 5		50		3.2	0.19		30.4	
	Level 6		50		3.2	0.19		30.4	
	Level 7		50		3.2	0.19		30.4	
	Roof		170		3.2	0.19		103.36	
Basement									
								414.048	cum
Wastage Volume				5%	of total			20.70	cum

				1	tonne / cum		20.70	tonne

Tiling		Qty	Length	Width	Height	Thickness	Area	Volume	
	Floors								
	Ground Floor					0.1	4458	445.8	
	Level 1					0.1	189	18.9	
	Level 2					0.1	189	18.9	
	Level 3					0.1	189	18.9	
	Level 4					0.1	189	18.9	
	Level 5					0.1	189	18.9	
	Level 6					0.1	189	18.9	
	Level 7					0.1	189	18.9	
	Roof						0		
	Basement								
								578.1	cum

Wastage Volume	2%	of total		11.56	cum
	0.75	tonne / cum		8.67	tonne

Timber		Qty	Length	Width	Height	Thickness	Area	Volume	
	Floors								
	Ground Floor					0.01	4458	44.58	
	Level 1					0.01	1057	10.57	
	Level 2					0.01	1678	16.78	
	Level 3					0.01	2387	23.87	
	Level 4					0.01	2379	23.79	
	Level 5					0.01	2387	23.87	
	Level 6					0.01	2389	23.89	
	Level 7					0.01	2379	23.79	
	Roof					0.01	2379	23.79	
	Basement	2				0.01	4458	89.16	
	Footpaths & Driveways					0.01	50	0.5	
	Lifts	3	3.5	3.2	33	0.01		11.088	
								315.678	cum

Wastage Volume	5%	of total		15.78	cum
	0.5	tonne / cum		7.89	tonne

WASTE MANAGEMENT

Material	Reuse – Recycle – Disposal		
	On-Site	Off-Site	Disposal
	Specify how materials will be reused or recycled on site	Specify the contractor and recycle outlet	Specify the contractor and landfill site
Excavated Material Topsoil / Fill Clay / Shale		Building contractor to advise in local area	Will be specified at construction certificate / later stage
Green Waste		Building contractor to advise in local area	Will be specified at construction certificate / later stage
Bricks & Masonry (inc stone)	50% re-use as clean fill to retaining walls	Building contractor to advise in local area	Will be specified at construction certificate / later stage
Tiles Clay Ceramic	N/A	N/A	Will be specified at construction certificate / later stage
Concrete	Possible crush on-site and use as recycled agreegate	Building contractor to advise in local area	Will be specified at construction certificate / later stage
Timber Formwork		Building contractor to advise in local area	Will be specified at construction certificate / later stage
Plasterboard		Building contractor to advise in local area	Will be specified at construction certificate / later stage
Metal	Prefabricated supply		Will be specified at construction certificate / later stage
Other Kitchens Bathroom Fixtures Windows Louvres & Screens Curtains Carpets Paint	 Prefabricated supply Prefabricated supply Prefabricated supply Prefabricated supply Prefabricated supply Wash up area and sediment trap to be established on site		Will be specified at construction certificate / later stage Building contractor to advise in local area